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VERY LATE STENT THROMBOSIS WITH BARE METAL STENTS COMPARED TO DRUG ELUTING STENTS AFTER PRIMARY PERCUTANEOUS CORONARY INTERVENTION FOR ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION: A META ANALYSIS OF PROSPECTIVE CLINICAL TRIALS

i2 Poster Contributions
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Background: Controversy persists regarding the incidence of very late stent thrombosis (VLST) with bare metal stents (BMS) compared to drug eluting stents (DES) after primary percutaneous coronary intervention (PCI) for ST-segment elevation myocardial infarction (STEMI). We performed a meta-analysis of prospective clinical trials comparing this outcome between BMS and DES.

Methods: We performed a systematic literature search for prospective clinical trials comparing this outcome between BMS and DES. All prospective clinical trials with a minimum follow up of 2 years were included. Stent thrombosis was defined as per classification set by academic research consortium. A two-sided alpha error of less than 0.05 was considered to be statistically significant ($p<0.05$).

Results: We found 9 prospective clinical trials with a follow up of 2-15 years comparing the effects of DES and BMS in STEMI, enrolling a total of 6854 patients. Median duration of follow up was 3 years. The studies were homogeneous; therefore the Mantel-Haenszel fixed-effect model was used to calculate relative risk (RR). Incidence of very late stent thrombosis was 1.35% in patients treated with BMS and 2.0% in patients treated with DES with a RR of 0.50 with 95% CI 0.33-0.76 (P = 0.001).

Conclusion: Although the incidence of very late stent thrombosis after coronary revascularization is low, drug-eluting stents appear to increase the risk for very late thrombosis.

Relative risk of very late stent thrombosis: BMS vs DES

Model	Study name	Risk ratio	Lower limit	Upper limit	p-Value	Events / Total BMS	Events / Total DES
	Di Lorenzo et al AHJ 2009	2.000	0.127	31.607	0.623	1 / 90	1 / 180
	Violini et al JACC 2010	1.134	0.072	17.942	0.929	1 / 127	1 / 144
	Atary et al AJC 2010	0.260	0.029	2.299	0.226	1 / 152	4 / 158
	Spaulding et al JACC 2011	1.506	0.544	4.168	0.431	9 / 250	6 / 251
	Vink et al JACC 2011	0.376	0.101	1.405	0.146	3 / 309	8 / 310
	Valgimigli et al JACC 2007	2.966	0.122	71.832	0.504	1 / 88	0 / 87
	Stone et al JACC 2010	0.655	0.250	1.717	0.390	5 / 749	23 / 2257
	Kaltoft et al JACC 2010.	0.500	0.126	1.982	0.324	3 / 313	6 / 313
	Brodie et al JACC 2011	0.252	0.127	0.499	0.000	14 / 813	18 / 263
Fixed		0.504	0.334	0.763	0.001